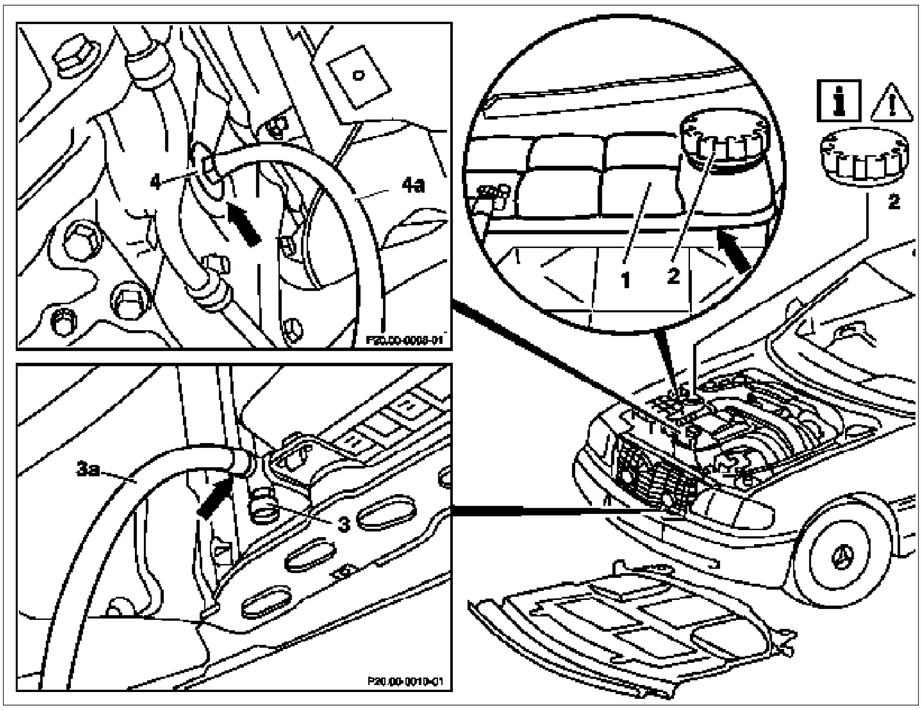
AR20.00-P-1142HA	Draining and pouring in coolant	2.4.93

ENGINE 112 in MODELS 129, 163, 202, 208, 210, 211.061 /065 /261 /265 /080 /280 /082 /282, 220, 230.467
ENGINE 113 in MODELS 129, 163, 202, 208, 210, 211.070 /083 /283, 215, 220
ENGINE 113.962 in MODELS 463.206 /240 /241 /247 /248 /249 /254
ENGINE 112.945 in MODELS 463.209 /232 /233 /244 /245 /250
ENGINE 137 in MODELS 215, 220
ENGINE 113.982 in MODELS 463.241 /243 /246

Illustrated on model 202

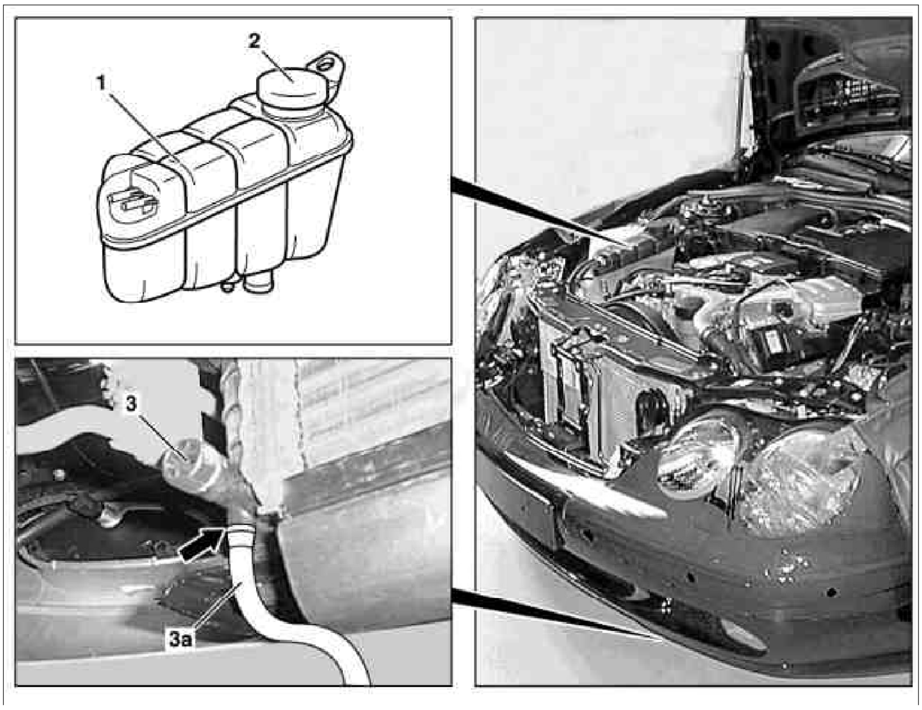
1 Coolant expansion reservoir
2 Cooling system cap
3 Radiator drain plug
3a Drain hose (inner diameter 12 mm)
4 Crankcase drain plug
4a Drain hose (inner diameter 14 mm)



P20.00-0215-06

Shown on model 215 with M137

1 coolant expansion reservoir
2 Cooling system cap
3 Radiator drain plug
3a Drain hose (inner diameter 12 mm)



P20.00-2045-06

	Draining		
⚠ **Danger!**	**Risk of injury** to skin and eyes suffering scalding from contact with hot coolant spray. **Risk of poisoning** from swallowing coolant.	Do not open cooling system unless coolant temperature is below 90°C. Open cap slowly and release the pressure. Do not pour coolant into beverage bottles. Wear protective gloves, protective clothing and eye protection.	AS20.00-Z-0001-01A
ⓘ	Notes on coolant	All engines	AH20.00-N-2080-01A

1	Open cooling system cap (2) on coolant expansion reservoir (1)	i Cap with detent: Turn cap carefully as far as the first detent, release pressure, and then unscrew cap. i 2-stage and 1-stage cap: Rotate cap half a revolution in a counterclockwise direction, release overpressure, then unscrew cap.	
2.1	Remove engine compartment paneling	Models 129, 202, 208, 210 Models 163.172/ 174/ 175 Models 163.113/ 128 Model 211 Models 215, 220 Model 230	AR61.20-P-1105AB AR61.20-P-1105GH AR94.30-P-5400GH AR61.20-P-1105T AR61.20-P-1105M AR61.20-P-1105R
2.2	Remove underride guard	Only on model 463	
3.1	Remove air guide	Only on model 163 with engine 113.942	
4	Drain coolant	i Model 163: For draining coolant, detach bottom coolant line at radiator or at coolant pump. i Collect coolant Observe regulations for disposal of coolant. **Installation:** On model 163 replace radiator connection of hose clamps to coolant hose, otherwise this can cause a damage to the bolt/thread. Nm Hose clamp	*BA20.20-P-1004-01A
	Pouring in		
5	Pour in coolant	All except engine 137 Engine 137	*BF20.00-P-1001-02K *BF20.00-P-1001-02M
	Notes on coolant level	Engines 112, 113, 137, 275, 285	AH20.00-P-1142-01V
i	Notes on coolant level	Model 163 with engines 111, 112, 113	AH20.00-P-1142-01GH
6	Bleed cooling system	i Let engine run, put heater on full heat output. Except stationary heater, code 228 With stationary heater code 228	AR20.00-P-1142-06GA
7	Inspect cooling system for leaks		AR20.00-P-1010HA

Nm **Radiator, coolant hoses**

Number	**Designation**		**Engines 112.942/ 970, 113.942/ 965/981**
BA20.20-P-1004-01A	Hose clamp	Nm	3

Cooling system

Number	**Designation**			**Engines 112.910 /920 in model 202, 112.940 in model 208**	**Engines 112.911/921/941 in model 210**	**Engines 112.922/944/972 in model 220**
BF20.00-P-1001-02K	Cooling system	Total capacity	Liters	Y 9.5	Y 10.0	Y 10.5
		Capacity of anticorrosion/antifreeze agent down to -37°C	Liters	Y 4.75	Y 5.0	Y 5.0
		Capacity of anticorrosion/ antifreeze agent down to -45°C	Liters	Y 5.25	Y 5.5	Y 5.5
		Specifications for Operating Fluids	Sheet	BB00.40-P-0310-01A	BB00.40-P-0310-01A	BB00.40-P-0310-01A
			Sheet	BB00.40-P-0325-00A	BB00.40-P-0325-00A	BB00.40-P-0325-00A

Cooling system

Number	Designation			Engines 112.923/943 in model 129	Engine 112.945 in models 463.209/ 232/233/244/ 245/250	Engine 112.942 in models 163, 113.940/980 in models 210, 113.943/984 in model 208, 113.944 in model 202
BF20.00-P-1001-02K	Cooling system	Total capacity	Liters	Y 11.75	Y 11.5	Y 11.0
		Capacity of anticorrosion/antifreeze agent down to -37°C	Liters	Y 6.0	Y 5.8	Y 5.5
		Capacity of anticorrosion/ antifreeze agent down to -45°C	Liters	Y 6.5	Y 6.4	Y 6.0
		Specifications for Operating Fluids	Sheet	BB00.40-P-0310-01A	BB00.40-P-0310-01A	BB00.40-P-0310-01A
			Sheet	BB00.40-P-0325-00A	BB00.40-P-0325-00A	BB00.40-P-0325-00A

Cooling system

Number	Designation			Engines 112.913/917/ 949/954 in model 211	Engines 113.967/969 in model 211	Engine 113.990
BF20.00-P-1001-02K	Cooling system	Total capacity	Liters	Y 9.5	Y 10.75	Y 13.2
		Capacity of anticorrosion/antifreeze agent down to -37°C	Liters	Y 4.75	Y 5.25	Y 6.6
		Capacity of anticorrosion/ antifreeze agent down to -45°C	Liters	Y 5.25	Y 6.0	Y 7.3
		Specifications for Operating Fluids	Sheet	BB00.40-P-0310-01A	BB00.40-P-0310-01A	BB00.40-P-0310-01A
			Sheet	BB00.40-P-0325-00A	BB00.40-P-0325-00A	BB00.40-P-0325-00A

Cooling system

Number	Designation			Engines 113.941/960 in models 215, 220	Engine 113.961 in model 129	Engine 113.962 in modeld 463.206/ 240/241 /247/248 249/254
BF20.00-P-1001-02K	Cooling system	Total capacity	Liters	Y 11.5	Y 12.75	Y 12
		Capacity of anticorrosion/antifreeze agent down to -37°C	Liters	Y 5.75	Y 6.25	Y 6
		Capacity of anticorrosion/ antifreeze agent down to -45°C	Liters	Y 6.25	Y 7.0	Y 6,6
		Specifications for Operating Fluids	Sheet	BB00.40-P-0310-01A	BB00.40-P-0310-01A	BB00.40-P-0310-01A
			Sheet	BB00.40-P-0325-00A	BB00.40-P-0325-00A	BB00.40-P-0325-00A

Cooling system

Number	Designation			Engine 113.991 in model 215	Engines 113.960/ 986 in model 215	Engine 112.973 in model 230.467
BF20.00-P-1001-02K	Cooling system	Total capacity	Liters	Y 14.5	Y 11.5	Y 10.8
		Capacity of anticorrosion/antifreeze agent down to -37°C	Liters	Y 7.3	Y 5.75	Y 5.4
		Capacity of anticorrosion/ antifreeze agent down to -45°C	Liters	Y 8	Y 6.25	Y 6
		Specifications for Operating Fluids	Sheet	BB00.40-P-0310-01A	BB00.40-P-0310-01A	BB00.40-P-0310-01A
			Sheet	BB00.40-P-0325-00A	BB00.40-P-0325-00A	BB00.40-P-0310-01A

Cooling system

Number	Designation			Engines 112.970 113.965 in model 163	ENgines 113.942/981 in model 163	Engine 113.982 in models 463.241/243/246
BF20.00-P-1001-02K	Cooling system	Total capacity	Liters	Y 12.0	Y 11.5	Y 11.9
		Capacity of anticorrosion/antifreeze agent down to -37°C	Liters	Y 6.0	Y 5.75	Y 5.95
		Capacity of anticorrosion/ antifreeze agent down to -45°C	Liters	Y 6.75	Y 6.25	Y 6.55
		Specifications for Operating Fluids	Sheet	BB00.40-P-0310-01A	BB00.40-P-0310-01A	BB00.40-P-0310-01A
			Sheet	BB00.40-P-0325-00A	BB00.40-P-0325-00A	BB00.40-P-0325-00A

Cooling system

Number	Designation			Engines 113.986/991 in model 220	Engines 113.948/966 in model 220	Engine 112.975 in model 220
BF20.00-P-1001-02K	Cooling system	Total capacity	Liters	Y 13.5	Y 11.6	Y 10.4
		Capacity of anticorrosion/antifreeze agent down to -37°C	Liters	Y 6.8	Y 5.8	Y 5.2
		Capacity of anticorrosion/ antifreeze agent down to -45°C	Liters	Y 7.4	Y 6.4	Y 5.7
		Specifications for Operating Fluids	Sheet	BB00.40-P-0310-01A	BB00.40-P-0310-01A	BB00.40-P-0310-01A
			Sheet	BB00.40-P-0325-00A	BB00.40-P-0325-00A	BB00.40-P-0310-01A

Cooling system

Number	Designation			Engine 113.968 in models 209, 211; engine 113.969 in model 211
BF20.00-P-1001-02K	Cooling system	Total capacity	Liters	Y 11.5
		Capacity of anticorrosion/antifreeze agent down to -37°C	Liters	Y 5.75

		Capacity of anticorrosion/ antifreeze agent down to -45°C	Liters	Y 6.25
		Specifications for Operating Fluids	Sheet	BB00.40-P-0310-01A
			Sheet	BB00.40-P-0325-00A

Cooling system

Number	Designation			Engine 137.970
BF20.00-P-1001-02M	Cooling system	Total capacity	Liters	Y 12
		Capacity of anticorrosion/ antifreeze agent down to -37°C	Liters	Y 6
		Capacity of anticorrosion/ antifreeze agent down to -45°C	Liters	Y 6.6
		Specifications for Operating Fluids	Sheet	BB00.40-P-0310-01A
			Sheet	BB00.40-P-0325-00A